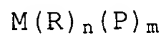


current amendment captioned "Version with Markings to Show Changes Made"):

Sub R4
1. (Amended) A process for the preparation of reactive sol-gel catalytic porous materials either chemically or physically doped with stable organic nitroxyl radicals, comprising the steps of:

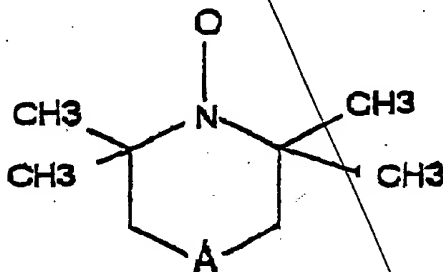
a) copolymerizing a solution including:

at least one monomer precursor selected from the group consisting of metal and semi-metal alkoxides, metal esters and semi-metal esters, of the general formula



wherein M is a metal or a semimetal, R is an hydrolysable substituent, P is a non-polymerizable group, n is an integer of 1 to 6, and m is an integer of 0 to 6,

a dopant consisting of a stable di-tertiary-alkyl nitroxyl radical or a precursor thereof of formula



B2
wherein A represents a chain of two or three carbon atoms, one or two of said carbon atoms being eventually substituted by one oxygen or nitrogen atom,

a solvent including H₂O and a co-solvent selected from the aliphatic alcohols;
an acid or base to catalyse the processes of sol-gel hydrolysis and copolymerization; and
one or more additives selected from those known to be useful in the preparation of porous materials to form a gel containing said dopant trapped therein;
b) evaporating said solvent;
c) drying said gel;
d) coating said gel on a mesoporous inorganic support; and
e) drying said mesoporous material coated with said sol-gel.

3. (Amended) The process according to claim 19, wherein said non-hydrolyzable substituent is H, an alkyl, aryl or fluoroalkyl group or an aminoalkyl group.

4. (Amended) The process according to claim 1, wherein said step c) of drying the gel is a liophilisation carried out at a pressure lower than 70 mm Hg, to obtain a mesoporous aerogel powder.

5. The process according to claim 1, wherein said step c) of drying the gel is a mild heat treatment carried out

at an atmospheric pressure and a temperature no greater than 100°C.

10. (Amended) The process according to claim 6, wherein said nitroxyl radical is TEMPO or a precursor thereof and said radical is physically entrapped within a sol-gel matrix adding a solution thereof in methanol to said precursor following said one-step procedure.

Subst B10
15. (Amended) A process according to claim 13, wherein said alcohol substrate is an alkyl alcohol, an aryl alcohol, a steroid alcohol, an allylic alcohol, a terpenoid alcohol or retinol and it is oxidated in a bi-phasic reaction system $\text{CH}_2\text{Cl}_2\text{-H}_2\text{O}$, said primary oxidant is aqueous alkaline NaOCl and wherein said nitroxyl radical is 4-oxy-TEMPO and said monomer precursor is 3-aminopropyl-trimethoxysilane to obtain a catalytic material containing chemically linked radicals.

Subst B11
B5
16. (Amended) A process according to claim 13, wherein said alcohol substrate is a monomer or an oligomeric carbohydrate protected at the anomeric center, said solvent is water, said oxidant is alkaline NaOCl or NaOCl in the presence of a catalytic amount of NaBr, and wherein said nitroxyl radical is 4-oxy-TEMPO and said monomer precursor is 3-amino-

propyl-trimethoxysilane to obtain a catalytic material containing chemically linked radicals.

17. (Amended) A process according to claim 16, wherein said catalytic material is in the form of pumice stones coated with said sol-gel film doped with said nitroxyl radicals, and said carbohydrate is a water soluble polymer.

Subt B12
18. (Amended) The catalytic material doped with a chemically linked nitroxyl radical obtained with a process as claimed in claim 8.

Add the following new claims:

20. (New) The process according to claim 1, wherein said nitroxyl radical is TEMPO or a precursor thereof and said radical is physically entrapped within a sol-gel matrix adding a solution thereof in methanol to said precursor following a two-step procedure wherein, first said monomer precursor is hydrolyzed in part with water in the presence of an acid and then said nitroxyl radical is added to obtain a porous sol-gel polymeric oxide with a fractal macromolecular structure.

Subt B13
21. (New) A process according to claim 13, wherein said alcohol substrate is an alkyl alcohol, an aryl alcohol, a steroid alcohol, an allylic alcohol, a terpenoid alcohol or